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*Admitted only in Maryland *Admitted only in Virginia •Practice Limited to Federal Agencies

November 8, 2004

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Mail Stop: Amendment

Commissioner for Patents PO Box 1450 Alexandria, VA 22313-1450

Re:

U.S. Utility Patent Application

Application No. 09/550,642; Filed: April 14, 2000

For: Method and System for Down-Converting an Electromagnetic Signal,

and Transforms for Same

Inventors:

Sorrells et al.

Our Ref:

1744.0920001/PEG/TAD

Sir:

Transmitted herewith for appropriate action are the following documents:

- 1. Fee Transmittal Form (PTO/SB/05);
- 2. Fourth Supplemental Information Disclosure Statement;
- 3. Forms PTO-1449 (4 pages) with 1 accompanying document (AP59);
- 4. Return postcard; and
- 5. Form PTO-2038 Credit Card Payment Form for \$180.00 to cover Information Disclosure fees under 37 C.F.R. § 1.17.

It is respectfully requested that the attached postcard be stamped with the date of filing of these documents, and that it be returned to our courier. In the event that extensions of time are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

Sterne, Kessler, Goldstein & Fox PLLC: 1100 New York Avenue, NW: Washington, DC 20005: 202.371.2600 f202.371.2540: www.skqf.com

Commissioner for Patents November 8, 2004 Page 2

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Timothy A. Doyle

Attorney for Applicants Registration No. 51,262

TAD/slw Enclosures

329650_1.DOC

PTO/SB/17 (10-03) U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE perwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

EE	TR	AN	SN	11T	TAL	
•	for	FY	20	05		

Effective 10/01/2003. Patent fees are subject to annual revision.

Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 180.00

Complete if Known					
Application Number	09/550,642				
Filing Date	April 14, 2000				
First Named Inventor	David F. Sorrells				
Examiner Name	Odom, Curtis B.				
Art Unit	2634				
Attorney Docket No.	1744.0920001/PEG/TAD				

METHOD OF PAYMENT (check all that apply)	FEE CALCULATION (continued)					
Check X Credit card Money X Other** None 3. ADDITIONAL FEES						
*Charge any deficiencies or credit any overpayments in	<u>Large E</u>	ntity	Small	Entity		
Deposit Account: the fees to Deposit Acct. No. 19-0036. Deposit	Fee	Fee	Fee Code	Fee	Fee Description	
Account 19-0036	1051	(\$) 130	2051	(\$) 65	Surcharge - late filing fee or oath	Fee Paid
Number Deposit Sterne, Kessler, Goldstein & Fox	1051	50	2052		Surcharge - late provisional filing fee or	
Account DIIC	1032	30	2032	23	cover sheet	
Name The Director is authorized to: (check all that apply)	1053	130	1053		Non-English specification	
Charge fee(s) indicated below Credit any overpayments	1812	•	1812		For filing a request for ex parte reexamination	
Charge any additional fee(s) or any underpayment of fee(s)	1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
Charge fee(s) indicated below, except for the filling fee	1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
to the above-identified deposit account.	1251	110	2251	55	Extension for reply within first month	
FEE CALCULATION	1252	430	2252	215	Extension for reply within second month	
1. BASIC FILING FEE	1253	980	2253	490		
Large Entity Small Entity Fee Fee Fee Fee Fee Description Fee Paid	1254		2254	765	Extension for reply within fourth month	
Code (\$) Code (\$)	1255			1,040	Extension for reply within fifth month	
1001 790 2001 395 Utility filing fee	1401	340	2401			
1002 350 2002 175 Design filing fee	1402	340	2401		Notice of Appeal Filing a brief in support of an appeal	
1003 550 2003 275 Plant filing fee	1403	300	2402		Request for oral hearing	
1004 790 2004 395 Reissue filing fee 1005 160 2005 80 Provisional filing fee	1451				,	
	1452	110	2452		Petition to revive - unavoidable	
SUBTOTAL (1) $(\$)$ 0	1453		2453	685	Petition to revive - unintentional	
2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE	1501		2501	685	Utility issue fee (or reissue)	
Fee from Extra Claims below Fee Paid	1502	490	2502	245	Design issue fee	
Total Claims 45 45 - **= 0 X 18.00 = 0	1503	660	2503	330	Plant issue fee	
Independent	1460	130	1460	130	Petitions to the Commissioner	
Multiple Dependent 300.00 = 0	1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
Large Entity Small Entity	1806	180	1806	180	Submission of Information Disclosure Stmt	180.00
Fee Fee Fee <u>Fee Description</u> Code (\$)	8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1202 18 2202 9 Claims in excess of 20	1809	790	2809	395	Filing a submission after final rejection	
1201 88 2201 44 Independent claims in excess of 3					(37 ČFR 1.129(a))	
1203 300 2203 150 Multiple dependent claim, if not paid	1810	790	2810	395	For each additional invention to be examined (37 CFR 1.129(b))	
1204 86 2204 43 ** Reissue independent claims over original patent	1801	790	2801	395	Request for Continued Examination (RCE)	
1205 18 2205 9 ** Reissue claims in excess of 20	1802	900	1802	900	Request for expedited examination	
and over original patent	Other	fee (sp	ecify)		of a design application	
SUBTOTAL (2) (\$) 0				Filina F	ee Paid SUBTOTAL (2)	100.00
**or number previously paid, if greater; For Reissues, see above *Reduced by Basic Filing Fee Paid SUBTOTAL (3) (\$) 180					180.00	

SUBMITTED BY (Complete (if applicable)) Registration No. Name (Print/Type) Telephone Timothy A. Doyle (202) 371-2600 51,262 (Attornev(Agent) NOUDY Signature

> WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, Ú.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

SORRELLS et al.

Appl. No.: 09/550,642

Filed: April 14, 2000

For:

Method and System for Down-Converting an Electromagnetic

Signal, and Transforms for Same

Confirmation No.: 9236

Art Unit: 2634

Examiner: Odom, Curtis B.

Atty. Docket: 1744.0920001

Fourth Supplemental Information Disclosure Statement

Commissioner for Patents PO Box 1450 Alexandria, VA 22313-1450

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98. The numbering on this Fourth Supplemental Information Disclosure Statement is a continuation of the numbering in Applicants' Third Supplemental Information Disclosure Statement filed on May 11, 2004 in connection with the above-captioned application.

Applicants have listed publication dates on the attached Form PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

Applicants provide the following comments regarding the documents:

Documents AP59 and AE63 were cited in an Office Action in related U.S. Patent Application No. 09/567,977, filed May 10, 2000, entitled "Optical Down-converter Using Universal Frequency Translation Technology," directed to related subject matter. Also cited in said Office Action were U.S. Patent No. 6,608,647, Dines, J.A.B., "Smart Pixel Optoelectronic Receiver Based on a Charge Sensitive Amplifier Design," *IEEE Journal of Selected Topics in Quantum Electronics*, IEEE, Vol. 2, No. 1, pp. 117-120 (April 1996); Simoni, A. et al., "A Digital Camera for Machine Vision," 20th International Conference on Industrial Electronics, Control and Instrumentation, IEEE, pp. 879-883 (September 1994); and Stewart, R.W. and Pfann, E., "Oversampling and sigma-delta strategies for data conversion," Electronics & Communication Engineering Journal, IEEE, pp. 37-47 (February 1998), which have already been cited in the present application.

Documents AA61 and AB61 were cited in an Office Action in related U.S. Patent Application No. 10/317,165, filed December 12, 2002, entitled "Method and Apparatus for Reducing DC Offsets in Communication Systems Using Universal Frequency Translation Technology," directed to related subject matter.

Document AC61 was cited in an Office Action in related U.S. Patent Application No. 09/669,634, filed September 26, 2000, entitled "High Frequency Translator and Method of High Frequency Translation," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 5,955,992; 5,999,561; 6,686,879; 6,049,706; 6,421,534; and 6,560,301, and German Patent No. DE 196 48 915 A1 (and it's translation), which have already been cited in the present application.

Document AD61 was cited in an Office Action in related U.S. Patent Application No. 09/476,093, filed January 3, 2000, entitled "Communication System Method With Multi-Mode and Multi-Band Functionality and Embodiments Thereof, Such as the Family Radio Service," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 5,937,013 and 5,790,587, which have already been cited in the present application.

Documents AE61 and AF61 were cited in a Notice of Allowance in related U.S. Patent Application No. 09/525,615, filed March 14, 2000, entitled "Method, System, and Apparatus for Balanced Frequency Up-conversion of a Baseband Signal and 4-Phase Receiver and Transceiver Embodiments," directed to related subject matter. Also cited in said Notice of Allowance were U.S. Patent Nos. 6,091,940; 6,370,371; 6,694,128; and 6,704,549, which have already been cited in the present application.

Documents AG61-AI61 were cited in an Written Opinion in related PCT Application No. PCT/US03/16403, filed May 27, 2003, entitled "Method and Apparatus for DC Offset Removal in a Radio Frequency Communication Channel," directed to related subject matter. Also cited in said Written Opinion was U.S. Patent No. 5,483,600, which has already been cited in the present application.

Documents AA62-AF62 were cited in an Office Action in related U.S. Patent Application No. 10/290,323, filed November 8, 2002, entitled "Method and Apparatus for DC Offset Removal in a Radio Frequency Communication Channel," directed to related subject matter. Also cited in said Office Action was U.S. Patent No. 5,483,600, which has already been cited in the present application.

Documents AG62-AI62 were cited in an Office Action in related U.S. Patent Application No. 09/632,857, filed August 4, 2000, entitled "Wireless Local Area Network (WLAN) Technology and Applications Including Techniques of Universal Frequency Translation," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 5,937,013; 6,014,551; 6,073,001; 6,085,073; and 6,314,279, which have already been cited in the present application.

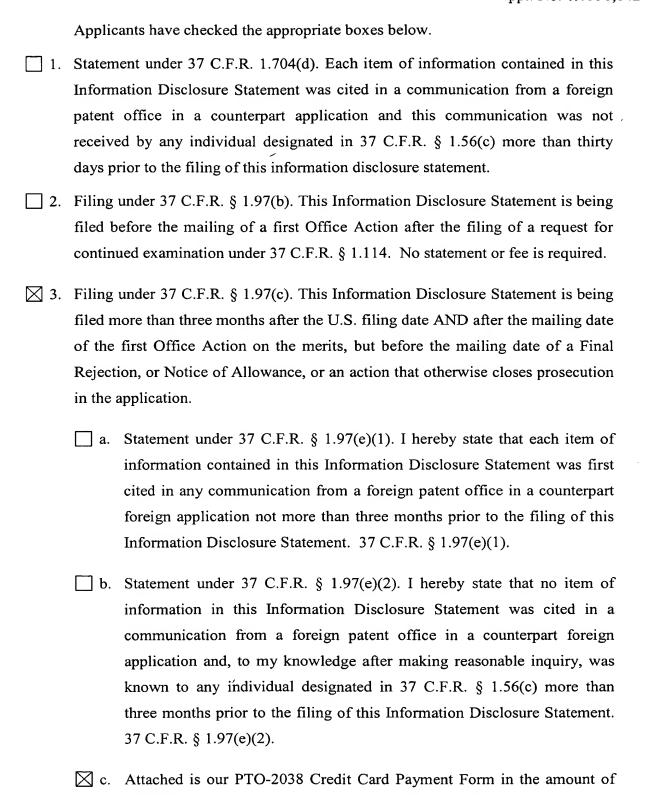
Documents AA63-AD63 were cited in an Office Action in related U.S. Patent Application No. 09/986,764, filed November 9, 2001, entitled "Method and Apparatus for Reducing DC Offsets in a Communication System," directed to related subject matter.

Documents AF63-AI63 were cited in a Notice of Allowance in related U.S. Patent Application No. 09/987,193, filed November 13, 2001, entitled "Method and Apparatus for a Parallel Correlator and Applications Thereof," directed to related subject matter.

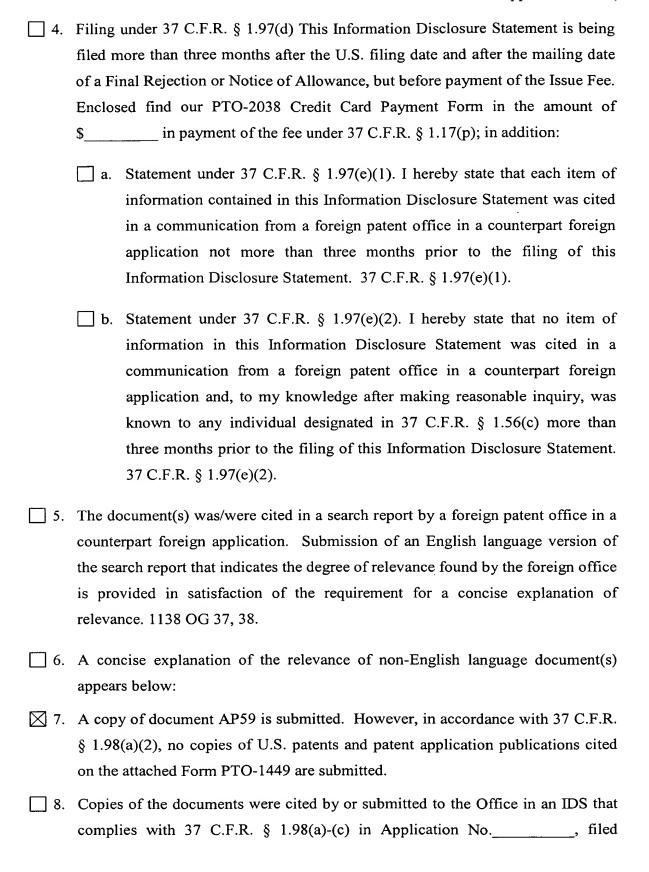
Document AA64 was cited in an Office Action in related U.S. Patent Application No. 09/632,857, filed August 4, 2000, entitled "Wireless Local Area Network (WLAN) Technology and Applications Including Techniques of Universal Frequency Translation," directed to related subject matter.

Document AB64 is a co-owned patent which is directed to related subject matter.

This statement should not be construed as a representation that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith.



\$180.00 in payment of the fee under 37 C.F.R. § 1.17(p).



	, which is r	elied upon for an	n earlier filing	date under	35 U.S.C
§ 120.	Thus, copies of thes	se documents are	not attached. 3	37 C.F.R. § 1	.98(d).

☑ 9. It is expected that the examiner will review the prosecution and cited art in the parent application no. 09/521,878, filed March 9, 2000, in accordance with MPEP 2001.06(b), and indicate in the next communication from the office that the art cited in the earlier prosecution histories have been reviewed in connection with the present application.

It is respectfully requested that the Examiner initial and return a copy of the enclosed Form PTO-1449, and indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Timothy A. Doyle
Attorney for Applicants

Registration No. 51,262

Date: 4 NOV 04

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Page 1 of 4 NOV 0 8 2004 APPLICATION NO. ATTY. DOCKET NO. 09/550,642 1744.0920001 FORM PTO-144 **INVENTORS** SORRELLS et al. FOURTH SUPPLEMENTA **ART UNIT FILING DATE** INFORMATION DISCLOSURE STAT 2634 April 14, 2000 **U.S. PATENT DOCUMENTS EXAMINER DOCUMENT NUMBER** INITIAL DATE NAME CLASS SUB-CLASS **FILING DATE** 01/1996 5,481,570 Winters AA61 **AB61** 5,745,846 04/1998 Myer et al. AC61 5,345,239 09/1994 Madni et al. 01/1979 Hongu et al. AD61 4,132,952 5,260,973 11/1993 AE61 Watanabe AF61 6,307,894 B2 10/2001 Eidson et al. 07/2000 **AG61** 6.091,289 Song et al. 6,437,639 B1 08/2002 **AH61** Nguyen et al. AI61 2002/0037706 A1 03/2002 Ichihara **FOREIGN PATENT DOCUMENTS EXAMINER** INITIAL DOCUMENT NUMBER DATE COUNTRY CLASS SUB-CLASS **TRANSLATION** Yes ΑJ No Yes ΑK No Yes AL No Yes ΑM No OTHER (Including Author, Title, Date, Pertinent Pages, etc.) ΑN AO Deboo, Gordon J., Integrated Circuits and Semiconductor Devices, 2nd Edition, McGraw-Hill, Inc., pp. AP <u>59</u> 41-45 (1977). AQ AR

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

DATE CONSIDERED

EXAMINER

Page 2 of 4 NOV 0 8 2004 APPLICATION NO. ATTY. DOCKET NO. 1744.0920001 09/550,642 FORM PTO-1749 **INVENTORS** SORRELLS et al. FOURTH SUPPLEMENTANDE **ART UNIT** FILING DATE INFORMATION DISCLOSURE STATEMENT 2634 April 14, 2000 **U.S. PATENT DOCUMENTS EXAMINER** DOCUMENT NUMBER CLASS SUB-CLASS | FILING DATE INITIAL DATE NAME 04/1984 **AA62** Saari 4,441,080 **AB62** 4,873,492 10/1989 Myer AC62 5,697,074 12/1997 Makikallio et al. AD62 07/1998 Kobayashi 5.784.689 01/2002 Goldfarb et al. AE62 6,335,656 B1 AF62 6,690,232 B2 02/2004 Ueno et al. 06/1997 Lee et al. AG62 5,636,140 6,366,622 B1 04/2002 Brown et al. AH62 AI62 6.600.795 B1 07/2003 Ohta et al. **FOREIGN PATENT DOCUMENTS EXAMINER** INITIAL DOCUMENT NUMBER DATE COUNTRY CLASS SUB-CLASS TRANSLATION Yes AJ No Yes ΑK No Yes ΑL No Yes AM No OTHER (Including Author, Title, Date, Pertinent Pages, etc.) AN AO AΡ AQ

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

DATE CONSIDERED

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AS TRADEMAS **FORM PTO-1449**

ATTY. DOCKET NO. 1744.0920001

APPLICATION NO. 09/550,642

Page 3 of 4

INVENTORS

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FOURTH SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT				FILING DATE April 14, 2000	ART UNIT 2634		
				ENT DOCUMENTS	12004		
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA63	4,250,458	02/1981	Richmond et al.			
	AB63	5,760,629	06/1998	Urabe et al.			
	AC63	6,084,465	07/2000	Dasgupta			
	AD63	6,204,789 B1	03/2001	Nagata			
	AE63	6,064,054	05/2000	Waczynski et al.			
	AF63	5,218,562	06/1993	Basehore et al.			
	AG63	5,239,496	08/1993	Vancraeynest			
	AH63	5,896,304	04/1999	Tiemann et al.			
	Al63	6,005,903	12/1999	Mendelovicz			
		F	OREIGN PA	TENT DOCUMENTS			
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AJ						Yes No
	AK						Yes
	AL						Yes
	АМ						Yes
		OTHER (Includ	ing Author,	, Title, Date, Pertinent P	ages, etc.)		
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	FC	DRM PTO-1449	8 2004 6	ATTY. DOCKET NO. 1744.0920001 INVENTORS		ICATION NO 0,642	Page 4 of 4
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INFO	RMATION [DISCLOSURE STATEM		April 14, 2000			
EXAMINER			i	TENT DOCUMENTS			
INITIAL	4464	DOCUMENT NUMBER	11/1998	NAME Yatsuka	CLASS	SUB-CLASS	FILING DATE
	AA64	5,834,979	ļ				
<u> </u>	AB64	6,798,351 B1	09/2004	Sorrells et al.			<u> </u>
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	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
EVALUED		F	OREIGN P	PATENT DOCUMENTS		<u> </u>	
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AJ						Yes No
	AK						Yes No
	AL			ļ			Yes No
	AM						Yes No
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,	AQ						
	AR						
EXAMINER					DATE CO	NSIDERED	

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